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ABSTRACT

The aptitude scores of 70 physicians in various areas of practice who were tested between 1934 and 1971 were compared with aptitude battery scores obtained by the general population of Johnson O'Connor Research Foundation examinees. For each aptitude test, obtained-score distributions were produced for the time periods of pre-1941, 1941-45, and each year from 1946 through 1972, allowing for better control when comparing physicians' scores with those of the general population of Foundation examinees. The Mann-Whitney U Test was used to evaluate the statistical differences between the physicians' and general population's score distributions. Results showed that physicians scored significantly higher in knowledge of English vocabulary, as well as in many other aptitudes, including structural visualization, clerical speed, finger dexterity, foresight, analytical and inductive reasoning, and several memory and musical abilities. Most of these aptitudes have obvious applications in either medical training or medical practice. Results of the Occupational Follow-up Questionnaire also indicated that 70% of the physicians rated their work very rewarding, while 23% rated it essentially satisfying. (KSA)

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APTITUDES OF PHYSICIANS

by
Mark Daniel

JOHNSON O'CONNOR RESEARCH FOUNDATION
HUMAN ENGINEERING LABORATORY

Technical Report 1983-6
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APTITUDES OF PHYSICIANS

by Mark Daniel

Abstract: The aptitude scores of seventy physicians who were tested over the past fifty years have been compared with scores obtained by the general population of Johnson O'Connor Research Foundation examinees. Physicians score significantly higher in knowledge of English vocabulary and in many aptitudes, including structural visualization, clerical speed, finger dexterity, foresight, analytical and inductive reasoning, and several memory and music abilities.

Introduction

For over sixty years, The Johnson O'Connor Research Foundation has offered an aptitude testing program to the general public. Individuals who take the tests gain information which they can use in making career and educational decisions. A description of the aptitudes measured in the test battery is given in Table 1.

As part of a major validation study, in 1972, the O'Connor Foundation sent follow-up questionnaires to approximately 40,000 individuals who had taken the O'Connor aptitude test battery during the previous forty years. Among the approximately six thousand respondents were 74 physicians. This is a report of their score distributions on a variety of aptitude tests.

Description of Sample

The first page of the Occupational Follow-up Questionnaire asked the respondent to rate his or her "over-all feeling toward the kind of work you're doing." Of a total of 74 physicians, 52 (70%) checked the highest rating, "very rewarding," and another 17 (23%) checked "essentially satisfying." Five checked "dissatisfied." The five doctors who said they were dissatisfied with their medical careers included one in general practice, one resident, one specialized clinician, and two anesthesiologists. These five cases were not included in the overall study of doctors' aptitudes described below. One physician who did not fill out the questionnaire but whose background is known from personal communication has been added to the study.

Seventeen of the seventy satisfied physicians were in their residency when they filled out the questionnaire in 1972 or 1973. The other fifty-three were in practice or had retired; these post-residency physicians averaged eleven years in practice. The breakdown of physicians (including residents) by type of practice is shown on page 3.

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Table 1
Aptitudes Measured

Name	Description
Graphoria	Number-checking, or clerical speed; speed of comparing pairs of numbers to see whether they are the same or different.
Ideaphoria	Verbal fluency; rate of flow of ideas.
Foresight	Keeping one's mind on a distant goal; taking a far-sighted viewpoint.
Inductive Reasoning	Quickness in seeing a relationship among separate facts, ideas, or observations.
Analytical Reasoning	Arranging ideas into a logical sequence.
Structural Visualization	Visualizing an object in three dimensions; imagining how a solid object will look when taken apart or viewed from a different angle.
Tonal Memory	Remembering a sequence of tones.
Pitch Discrimination	Distinguishing between tones very close to each other in pitch.
Rhythm Memory	Remembering a complex rhythm pattern.
Personality	When dealing with people, tending to react from a general, objective viewpoint vs. reacting from a personal, subjective viewpoint.
Memory for Design	Memory for straight-line patterns.
Observation	Memory for fine visual details.
Number Memory	Remembering several six-digit numbers simultaneously.
Silograms	Remembering nonsense and English word pairs.
Finger Dexterity	Speed and accuracy in manipulating small objects with the fingertips.
Tweezer Dexterity	Speed and accuracy in handling small objects with tweezers.
Grip	Strength of grip, using a hand dynamometer.
English Vocabulary	Knowledge of general English vocabulary.

Areas of Practice

Surgery	15 cases
Specialized clinical practice*	13
General practice	12
Psychiatry	10
Research/ Teaching	8
Internal medicine	4
Pediatrics	4
Anesthesiology	3
Public Health	1
	70

*Includes dermatology, neurology, obstetrics/gynecology, ophthalmology, otolaryngology, pathology, and urology.

Only four of the seventy physicians used in the study are females. These women are in psychiatry, anesthesiology, public health, and research/teaching.

The examinees were tested between 1934 and 1971; the median year of testing was 1955. Age at testing ranged from 12 to 49 years, with the median at 17 years; 82% of the doctors were tested at or before the age of 21. Therefore, for the great majority of these cases, the counseling of the Foundation could have influenced their career choices.

Method of Analysis

Photocopies of the original bargraphs (test-score reports) were obtained for almost all of the cases. This permitted us to control for test forms, and also undoubtedly reduced the incidence of errors in interpreting very old bargraphs.

For each worksample, the distribution of physicians' scores is compared with the distribution of scores obtained by the general population of O'Connor Foundation examinees. At least recently, these examinees have had more schooling than the nation as a whole: adult examinees have a mean of about 16 years of education, and the fathers of examinees also average 16 years of schooling (Bowker and Moore, 1981). Prior to the 1970s, the O'Connor testing program was considerably briefer and less expensive, and may have attracted a more representative sample of the population.

To control for age differences, percentile scores (based on age)

are used for these comparisons. A few tests are scored on quartile "grades" rather than percentiles, but again these are age-based if there are any age-related score differences on the test.

Rather than assume that in the past norms have been perfectly accurate, the physicians' scores are compared with actual obtained-score distributions. As part of the follow-up research, test data for about 20,000 past examinees who were sent questionnaires were put in a computer file. For each aptitude test, obtained-score distributions have been produced for each of the following time periods: pre-1941, 1941-1945, and each year from 1946 through 1972. This information allows us to control for time period when comparing physicians' scores with those of the general population of Foundation examinees. It has been found from this obtained-score tabulation that when norms have been inaccurate, they have usually been too easy, yielding too many high scores and too few low scores.

Obtained-score distributions are not broken down by sex, and therefore cannot be used on tests where large sex differences exist and where males and females have been scored on the same norms (Wiggly Block, Black Cube, Structural Visualization, and Graphoria). Also, for reasons given in Appendix I, obtained-score distributions cannot be used for the Personality or Analytical Reasoning tests. On these tests, the physicians' score distributions are compared with the appropriate norms.

In some cases the raw scores have been reconverted to percentiles using more accurate norms than were available when the test was administered. These procedures are described in detail in Appendix I. When reconversion of raw scores to percentiles is done, the resulting distributions are compared with general-population scores obtained during years in which the more up-to-date norms were in use.

The Mann-Whitney U test is used to evaluate the statistical significance of differences between the physicians' and general population's score distributions. If actual obtained-score distributions are not available for a test, a hypothetical distribution of 1,000 cases evenly distributed across the percentile scale has been used for statistical analysis.

Results

Figure 1 presents the distributions of physicians' scores on the various aptitude tests. Table 2 summarizes the results of the statistical significance tests. The general population score distributions and descriptions of sampling restrictions used in analyzing each test are provided in Appendix I. Appendix II presents the raw test data for all cases, grouped by type of practice.

Figure 1
Physicians' Score Distributions

NUMBER CHECKING Wks. 1, 268, 380; all forms (males only)	IDEAPHORIA Wks. 161; all forms	FORESIGHT Wks. 307A; all forms
10* 0 9 0034566679 8 0002446888999 7 048 6 0355589 5 0012789 4 22333345589 3 00055567 2 458 1 055 0	10* 9 123344556667899 8 11123357788 7 0345 6 12345579 5 4556789 4 0224566 3 88 2 01356678 1 1133456 0	10* 000000 9 0000011122337888 8 01135558 7 03557 6 234446 5 000557 4 3 05888 2 145 1 16 0 1
N = 66, Mdn. = 61.5	N = 69, Mdn. = 64	N = 58, Mdn. = 80.5
INDUCTIVE REASONING Wks. 164; all forms	ANALYTICAL REASONING Wks. 244; all forms	STRUCTURAL VISUALIZATION Wks. 4 + 246 (males only)
10* 0000 9 01226678999 8 22666789 7 001144568 6 113333346688 5 2668 4 02589 3 1122 2 12899 1 59 0 13677	10* 0 9 0000005 8 0 7 00 6 00000 5 00 4 3 0008 2 0 1 0 0	10* 0000 9 0013579 8 0011223455779999 7 1389 6 0023459 5 16 4 01445778 3 18 2 4 1 35689 0
N = 69, Mdn. = 66	N = 24, Mdn. = 60	N = 56, Mdn. = 78.5
WIGGLY BLOCK Wks. 3, 4, 5, 6; all forms (males only)	BLACK CUBE Wks. 167, 246 & 485; all forms (males only)	PERSONALITY Wks. 35 AE, AH, AI, AL; certile scores
10* 00 9 02234668999 8 011334569 7 011224557889 6 389 5 00122589 4 002367788 3 14568 2 156 1 1389 0	10* 0 9 22555 8 012237777778888 7 0002378 6 13355 5 01111259 4 0023 3 357 2 255 1 3489 0 56	10* 9 1255666 8 0033333369 7 023777 6 000677999 5 22335555788 5 3333445 6 1158 7 3334448 8 00 9 458 10 00
N = 66, Mdn. = 70.5	N = 58, Mdn. = 67.5	N = 67, Mdn. = 58 Obj.

Figure 1 (continued)

TONAL MEMORY
Wks. 77, 215, 305, 365,
& 498; all forms

10*	
9	00156677788
8	0357888888888
7	0000000055588
6	03333579
5	5666
4	0368
3	188888
2	009
1	1336
0	5

$N = 67$, Mdn. = 70

RHYTHM MEMORY
Wks. 78 & 366;
all forms

10*	000
9	000059
8	033588888
7	55
6	03355
5	5
4	888
3	
2	00
1	5
0	0

$N = 32$, Mdn. = 83

MEMORY FOR DESIGN
Wks. 207 & 294;
all forms

10*	
9	0223455568999
8	122688888888888
7	0159
6	0133333899
5	4566
4	013388
3	23488
2	68
1	259
0	

$N = 62$, Mdn. = 70.5

SILOGRAMS
Wks. 376; all forms

10*	0
9	0044479
8	001457788889
7	3457789
6	13333
5	5568
4	
3	0568
2	69
1	6
0	5

$N = 43$, Mdn. = 77

NUMBER MEMORY
Wks. 165; all forms

10*	0
9	002355556888
8	368999
7	11278
6	277
5	5777
4	056
3	018
2	004
1	05
0	

$N = 42$, Mdn. = 74.5

OBSERVATION
Wks. 184, 206, 298 & 304;
all forms

10*	
9	012344559999
8	01133588888
7	558
6	03444479999
5	18
4	1588
3	5888
2	33
1	3339
0	5

$N = 54$, Mdn. = 69

FINGER DEXTERITY
Wks. 16; all forms

10*	
9	00333344555555567
8	234457788888
7	00023556888
6	00035557
5	00055
4	0338
3	04
2	555
1	03
0	0

$N = 65$, Mdn. = 78

TWEEZER DEXTERITY
Wks. 18; all forms

10*	000000000
9	555569
8	00088888888999
7	002
6	033
5	01
4	5777
3	88
2	0
1	003333
0	7

$N = 51$, Mdn. = 88

PROPORTION APPRAISAL
Wks. 235; all forms

10*	
9	05555
8	05555
7	005
6	0000055555
5	00055555
4	0005
3	55
2	5
1	
0	55

$N = 40$, Mdn. = 60

Figure 1 (continued)

ENGLISH VOCABULARY		PITCH DISCRIMINATION		GRIP	
all forms		Wks. 76, 315 & 364; all forms		Wks. 185; all forms	
10*		A	XXXXXXXXXXXXXXXXXX	A	XXXXXXXXXX
9	111134555555555	B	XXXXXXXXXXXXXXXXXX	B	XXXXXXXXXXXXXXXXXX
8	11469	C	XXXXXXXXXXXXXXXXXX	C	XXXXXXXXXX
7	224556778	D	XXXXXXXXXX	D	XXX
6	00122337888				
5	12446779	N = 55		N = 35	
4	0122235559				
3	67				
2	00267				
1	7				
0					

N = 68, Mdn. = 67.5

Table 2
Comparisons of Physicians with General Population

Aptitude Test	No. Physicians	Mdn. %ile	U Test	
			z	p
Number Checking ^a	66	61.5	-2.81	.005
Ideaphoria	34	64	-1.88	.06
Foresight	58	80.5 ^b	-2.56	.01
Inductive Reasoning	69	66	-1.95	.05
Analytical Reasoning	24	60	-2.72	.007
Structural Visualization ^a	56	78.5	-4.19	<.0001
Wiggly Block ^a	66	70.5	-3.63	.0003
Black Cube ^a	58	67.5	-3.01	.003
Personality	67	--	-1.90	.06
Tonal Memory	67	70	-2.23	.03
Pitch Discrimination	23	--	-1.32	.19
Rhythm Memory	32	83 ^b	-3.02	.003
Memory for Design	62	70.5	-1.98	.05
Silograms	43	77 ^b	-2.24	.03
Number Memory	42	74.5 ^b	-2.69	.007
Object Observation	54	69	-3.85	.0002
Finger Dexterity	65	78 ^b	-3.32	.001
Tweezer Dexterity	51	88 ^b	-1.62	.11
English Vocabulary	68	67.5	-6.61	<.0001
Proportion Appraisal	40	60	-1.29	.20
Grip	35	--	-1.51	.13

^a Males only^b Norms have tended to be too easy (general population median is above the 50th percentile).

The physicians in this sample score high in a large number and wide variety of aptitudes and in knowledge of English vocabulary. Considering that this group of doctors reported a high degree of satisfaction with their careers, it appears that medicine is a rewarding field for the many-aptitude person.

English Vocabulary. The physicians scored high in English vocabulary when they were tested, usually in their teenage years. We know that vocabulary is closely related to success in school and to performance on tests such as the SAT. To be accepted into medical school, a person must have compiled a good academic record. Therefore, it may well be that doctors score high in English vocabulary primarily because high-vocabulary students have the greatest chance of being admitted into medical school. It is very likely that a good vocabulary is helpful in the successful completion of medical school itself.

Finger Dexterity. The physicians in this study scored significantly higher than the general population on the finger dexterity test. This test is one of two tests of manual dexterity measured in the O'Connor test battery. It measures the ability to manipulate small objects quickly and accurately with the fingertips. However, the physicians did not score significantly higher than the general population on the tweezer dexterity test, which measures speed and accuracy in using small tools or instruments. It should be noted that the norms for the tweezer dexterity test may be inappropriate for the general population and thus may have affected the analysis.

Structural Visualization. The physicians in this study scored significantly higher than the general population in structural visualization. Structural visualization is the aptitude for seeing three-dimensional structure, measured by the Wiggly Block and the Black Cube tests. The "Structural Visualization" score is a weighted composite based on these two worksamples. The composite score is more reliable than either of the worksamples alone. This is particularly important since the Wiggly Block test has a low test-retest reliability.

Structural visualization would seem to be helpful both in medical training (in anatomy, physiology, organic chemistry, etc.) and in

medical practice. A surgeon may have to visualize the spatial relations among organs if his or her view is obstructed; two-dimensional x-ray pictures need to be interpreted in terms of a three-dimensional structure.

Number Checking. The Number Checking test measures "Graphoria," or clerical speed and accuracy. Physicians do not score particularly high, but they rarely score in the very low portion of the scale; only five doctors, 8% of the total, grade "D" (bottom quartile). This suggests that high Graphoria is not particularly helpful in medicine, but very low Graphoria is a handicap to success.

Analytical Reasoning. This is an aptitude for arranging ideas into a logical, or temporal, sequence, and is closely related to logical reasoning ability (Daniel, 1982a). Analytical Reasoning is a good predictor of academic performance (Daniel, 1982b) and so the physicians' high scores may reflect the fact that they tended to be good students. Logical reasoning also could be involved in the diagnostic process or in setting up treatment plans.

Inductive Reasoning. This test measures speed in seeing relationships among facts, or ideas, and is used in fields that emphasize the rapid analysis of information. High-scoring occupational groups include lawyers, journalists, and guidance counselors (Daniel, 1978). In medicine, diagnostic work would seem to use this aptitude.

Memory Aptitudes. The physicians score high in all four memory tests (Number Memory, Object Observation, Memory for Design, and Silograms, or verbal memory). Although these tests intercorrelate moderately (between .25 and .50; Daniel, 1983), they measure distinct types of memory ability. Object Observation is an ability to recall specific details of a picture; in medicine, this could be useful in remembering details of a patient's appearance. Number Memory and Silograms are aptitudes for memorizing numbers and words, respectively. Silograms would be of obvious value in learning medical terminology; the usefulness of Number Memory is not nearly as clear. Memory for Design is an ability to memorize nonrepresentational straight-line drawings, and might be helpful in interpreting x-rays or in learning anatomy.

Music Aptitudes. The physicians score high on two music-related tests, Tonal Memory and Rhythm Memory. (Although these are memory tests, they correlate below .2 with the four other memory tests discussed previously.) It may be that these aptitudes are useful in the collection of diagnostic information from sounds produced by the body or by maintaining equipment.

Foresight. This is a divergent-thinking test which may measure an

ability to keep long-range goals in mind. The physicians' significantly high Foresight scores, along with their lower scores on Ideaphoria (another divergent thinking test), support the hypothesis that Foresight is related to long-range planning, because medical training is clearly a lengthy and difficult endeavor.

Personality. The Personality scoring scale is different from others. It is bidirectional, with high raw scores indicating Objectivity and low raw scores showing Subjectivity. The dividing point between Objective and Subjective scores is located at the 25th percentile. The top 75% of raw scores are divided into the 51st to 100th "certiles" of Objective Personality, and the bottom 25% are similarly divided into the 51st through 100th certiles of Subjective Personality. Thus, the general population median should be at about the 67th certile Objective. For convenience, the four quartiles of the overall raw score distribution are labeled (from the bottom) Subjective, Probably Objective, Objective, and Extremely Objective.

Although for many years the O'Connor Foundation has held the opinion that physicians tend to score Subjective in Personality, the physicians in this sample do not score significantly more Subjective than the general population. Analysis of the scores of subgroups of post-residency doctors according to type of practice reveals one significant trend: general practitioners tend to score Subjective. Of the twelve general and family practitioners, with a median of 18-years' practice, six score Subjective, three Probably Objective, two Objective, and one Extremely Objective. The distribution of scores is significantly different from the general-population distribution (Mann-Whitney U test, $p < .05$). Neither of the other two groups large enough to study - surgeons and specialized clinicians - shows a similar tendency to score Subjective. Of the nine post-residency surgeons, one scores Subjective, two score Probably Objective, four Objective, and two Extremely Objective. Of the seven specialized clinicians (post-residency), two score Subjective, four Objective, and one Extremely Objective.

One of the doctors, who scored at the 100th certile Subjective (0 significant responses on 35AE), indicated why general practitioners may tend to score Subjective: "My original testing → introvert type personality - actually I have gradually had to become more extraverted. I prefer working solo practice, however." Unlike surgeons or specialists, or other doctors who commonly work along with peers in a hospital or group-practice setting, general practitioners often work as individuals, independent of other health professionals. This may be the aspect of general practice medicine which attracts the Subjective person: the opportunity to be the sole authority in one's bailiwick.

The broader implication of this analysis is that specialization is

most appropriate for the Subjective person, when it grants him independent authority and the chance to work as an individual. However, in medicine, specializing may have the reverse effect of bringing one into ever-greater interaction with other professionals in the same field.

Eye Dominance and Handedness. Eye dominance (sighting eye through hole in card) and preferred hand (14 activities, including writing) are known for 64 of the physicians. They score as follows:

Right-eyed:	48 = 75%	
Right-handed		44 = 69%
Left-handed		3 = 5%
Ambi-handed		1 = 2%
Left-eyed:	16 = 25%	
Right-handed		12 = 19%
Left-handed		2 = 3%
Ambi-handed		2 = 3%
Ambi-eyed:	0 = 0%	

In a study of 800 examinees (Pryor, 1948), 66% were found to be right-eyed and 30% left-eyed. Twenty-five percent were found to be both left-eyed and right-handed ("cross-dominant"). The frequencies among the total group of physicians do not differ significantly from the general population frequencies in any of these categories.

Conclusion

This analysis of the test scores of seventy physicians reveals a large number of aptitudes on which the physicians score higher than other O'Connor Foundation examinees. In particular, the physicians display high structural visualization, reasoning, and memory abilities; high scores in some music and dexterity tests; and very good knowledge of English vocabulary. Most of these aptitudes have obvious applications in either medical training or medical practice.

One might suspect that in a follow-up study of this type the sample may be self-selected in ways that bias the results. For example, examinees who obtained high scores on tests, or whose test results led them to careers in which they ultimately succeeded, may have been more willing than other examinees to cooperate in the follow-up study. These are potential weaknesses of follow-up research which are difficult to avoid. We do know, however, that studies of other occupations (including law, engineering, sales, teaching, and management) drawn from this same follow-up sample have shown quite different patterns and levels of test scores. Thus, there is evidence for differential validity results within this group of individuals who participated in

the follow-up study. Furthermore, the score patterns observed in these follow-up studies have not always agreed with the Foundation's prior assumptions regarding the aptitudes used in these occupations; unexpected findings cannot easily be explained away as a result of sample self-selection. For example, despite a longstanding belief that inductive reasoning is useful in teaching, the teachers in this follow-up sample scored no higher in this aptitude than other Foundation examinees (Daniel, 1978). For these reasons, we may have a reasonable degree of confidence that this follow-up study, and others like it, are fairly valid indicators of the aptitudes used in specific occupations.

REFERENCES

All technical reports, statistical bulletins and test manuals mentioned in the reference list are published by the Johnson O'Connor Research Foundation, New York. Technical reports are available for sale to the general public. All test manuals and some statistical bulletins contain confidential information which prohibits their distribution to the public.

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APPENDIX I
Details of Tests of Statistical Significance

Number Checking

Because there is a sex difference on this test, only male cases are used. Cases have been rescored using the norms in Technical Report 693, and physicians' scores are compared with those norms.

Ideaphoria

For cases administered in 1953-66, raw scores were converted to percentiles using the age and sex norms issued in 1959 (Technical Report 635). The physicians' scores are compared with scores obtained by the general population during the years 1958-66. After 1966 the norms became too easy, for unknown reasons. Therefore, only cases of physicians tested in 1953-66 have been used.

<i>Ideaphoria, General Population</i>		
Percentiles	<i>N</i>	%
90-100	508	11.2
80-89	457	10.1
70-79	519	11.4
60-69	464	10.2
50-59	439	9.7
40-49	458	10.1
30-39	484	10.6
20-29	449	9.9
10-19	430	9.5
1-9	338	7.4
Total	4546	100.0

Foresight

Scores on Worksample 307A are compared with general population obtained scores over all years, which have always been too easy.

<i>Foresight, General Population</i>		
Percentiles	<i>N</i>	%
90-100	2915	22.5
80-89	1799	13.9
70-79	1491	11.5
60-69	1423	11.0
50-59	1088	8.4
40-49	1083	8.4
30-39	922	7.1
20-29	755	5.8
10-19	855	6.6
1-9	636	4.9
Total	12967	100.0

APPENDIX I (continued)

Inductive Reasoning

Scores on Worksample 164 are compared with general population obtained scores over all years.

<i>Inductive Reasoning, General Population</i>		
Percentiles	N	%
90-100	2486	18.8
80-89	1434	10.8
70-79	1263	9.5
60-69	1044	7.9
50-59	839	6.3
40-49	1319	10.0
30-39	1385	10.5
20-29	1252	9.4
10-19	1054	8.0
1-9	1176	8.9
Total	13252	100.0

Analytical Reasoning

Raw scores on Worksample 244, Forms CJ, CK, and CL were converted using the 1971 age norms (Technical Report 791). Because we have no distribution of obtained scores since 1971, the physicians' scores are compared with the norms.

Structural Visualization, Wiggly Block, Black Cube

We do not have a distribution of general population obtained scores for males only. Therefore, comparison must be made with the norms. The norms for Wiggly Block (Technical Report 782) are based on over 18,000 cases and therefore are highly reliable. Cases were rescored using those norms.

Personality

Only Forms AE, AH, AI, and AL of Worksample 35 have been used. Raw scores on Wks. 35 AE were converted to certiles using the 35 AH norms. No listing of general population obtained scores is available. Therefore, the physicians' scores were compared with the norms.

Tonal Memory

A wide variety of administrations and norms have been used. For this analysis, percentile scores on Worksample 498 Forms AE and AF, obtained during the years 1953-64, have been compared with general population scores obtained during the same time period.

APPENDIX I (continued)

<i>Tonal Memory, General Population</i>		
<i>Percentiles</i>	<i>N</i>	<i>%</i>
90-100	461	10.0
80-89	517	11.2
70-79	456	9.9
60-69	431	9.3
50-59	499	10.8
40-49	468	10.1
30-39	449	9.7
20-29	441	9.5
10-19	479	10.4
1-9	424	9.2
Total	4625	100.0

Rhythm Memory

Scores on Worksamples 78 and 366 are compared with general population obtained scores over all years.

<i>Rhythm Memory, General Population</i>		
<i>Percentiles</i>	<i>N</i>	<i>%</i>
90-100	1718	21.3
80-89	607	7.5
70-79	648	8.0
60-69	998	12.4
50-59	664	8.2
40-49	927	11.5
30-39	487	6.0
20-29	905	11.2
10-19	823	10.2
1-9	303	3.8
Total	8080	100.0

Memory for Design

A variety of forms and norms have been used over the years. For this analysis, physicians' cases of Worksamples 294 UD, UI, UK, and UL have been used. Form UD raw scores were converted to percentiles using the 1961 age norms (Technical Report 642), and Form UI and Form UK raw scores were converted using the 1975 age norms (Statistical Bulletin 1975-4). These scores are compared with scores obtained by the general population between 1962 and 1967, during which time form UD (scored with the 1961 norms) was in use.

APPENDIX I (continued)

<i>Memory for Design, General Population</i>		
<i>Percentiles</i>	<i>N</i>	<i>%</i>
90-100	517	14.5
80-89	365	10.2
70-79	356	10.0
60-69	389	10.9
50-59	287	8.0
40-49	285	8.0
30-39	399	11.2
20-29	261	7.3
10-19	385	10.8
1-9	330	9.2
Total	3574	100.0

Silograms

Worksample 376 AD raw scores have been converted to percentiles using the 1963 age norms (Technical Report 658). The resulting distribution is compared with scores obtained by the general population during the years 1964-66, when it appears that 376 AD was the predominant form. The fact that a sex difference exists on this worksample should not affect the results, because both sexes were scored on norms for their own sex.

<i>Silograms, General Population</i>		
<i>Percentiles</i>	<i>N</i>	<i>%</i>
90-100	372	19.2
80-89	220	11.3
70-79	216	11.1
60-69	203	10.5
50-59	197	10.2
40-49	161	8.3
30-39	168	8.7
20-29	133	6.9
10-19	138	7.1
1-9	131	6.8
Total	1939	100.0

Number Memory

The scores of physicians tested before 1964 are compared with general population scores obtained during the same time period.

APPENDIX I (continued)

Number Memory, General Population

Percentiles	N	%
90-100	878	20.2
80-89	477	11.0
70-79	335	7.7
60-69	388	8.9
50-59	372	8.6
40-49	407	9.4
30-39	439	10.1
20-29	523	12.0
10-19	353	8.1
1-9	175	4.0
Total	4347	100.0

Object Observation

The distribution of general population obtained scores became lower starting in 1966. Therefore, the scores of physicians tested before 1966 are compared with general population scores from the same period.

Observation, General Population

Percentiles	N	%
90-100	700	11.4
80-89	583	9.5
70-79	534	8.7
60-69	675	11.0
50-59	569	9.3
40-49	627	10.2
30-39	524	8.6
20-29	713	11.6
10-19	648	10.6
1-9	549	9.0
Total	6122	100.0

Finger Dexterity

The physicians' scores are grouped into quartile grades and compared with grades received by the general population over all years.

Finger Dexterity, General Population

Grade	Percentiles	N	%
A	76-100	5040	33.5
B	51-75	4138	27.5
C	26-50	2934	19.5
D	1-25	2934	19.5
Total		15046	100.0

APPENDIX I (continued)

Tweezer Dexterity

The physicians' scores are grouped into quartile grades and compared with general population obtained scores from all years.

Tweezer Dexterity, General Population

Grade	Percentiles	N	%
A	76-100	4009	43.0
B	51-75	1753	18.8
C	26-50	1688	18.1
D	1-25	1874	20.1
Total		9324	100.0

Proportion Appraisal

Physicians' scores obtained during 1951-72 are compared with general population scores obtained during 1951-63.

Proportion Appraisal, General Population

Percentiles	N	%
90-100	304	9.6
80-89	269	8.5
70-79	189	5.9
60-69	442	13.9
50-59	449	14.1
40-49	346	10.9
30-39	185	5.8
20-29	295	9.3
10-19	441	13.9
1-9	255	8.0
Total	3177	100.0

English Vocabulary

Physicians' raw scores (General Scale Scores) have been converted to percentiles using the 1955 age norms (Technical Report 649) and compared with general population scores obtained between 1956 and 1972.

English Vocabulary, General Population

Percentiles	N	%	Percentiles	N	%	
90-100	451	4.7	30-39	1296	13.6	
80-89	603	6.3	20-29	1336	14.0	
70-79	693	7.3	10-19	1154	12.1	
60-69	971	10.2	1-9	908	9.5	
50-59	1050	11.0				
40-49	1094	11.4	22	Total	9556	100.0

APPENDIX I (continued)

Pitch Discrimination

Norms have varied in difficulty over the years. Grades were fairly consistent over the period 1955-70, and 23 physicians received grades in Pitch Discrimination during this period.

<i>Pitch Discrimination, General Population</i>		
Grade	<i>N</i>	%
A	807	13.3
B	1236	20.4
C	1740	28.7
D	2281	37.6
Total	6064	100.0

Grip

Physicians' grades, using their preferred hand, are compared with general population grades using the right hand, over all years.

<i>Grip, General Population</i>		
Grade	<i>N</i>	%
A	1933	25.8
B	1926	25.7
C	2053	27.4
D	1581	21.1
Total	7493	100.0

APPENDIX II Worksample Scores and Career Information

On the following pages are listed the worksample scores and career information for all the physicians included in this study, grouped according to type of practice. A number of doctors can be included in several different areas: the most common instance of this is combining private practice with teaching and/or research. In these cases, the scores are listed only once, under the doctor's main area of practice.

Below are listed the bargraph numbers of all the physicians included, in bargraph number order.

1- 307-0	4-22413-4	6-19874-6
1- 779-2	4-22629-0	6-20762-3
1- 1029-6	4-23531-6	6-20816-3
1- 6751-1	4-23553-6	6-41033-8
1- 6837-1	4-25495-6	6-42479-1
	4-25739-6	6-42756-3
3- 926-3	4-25740-6	6-43533-8
	4-26063-8	6-47521-6
4- 199-3	4-28002-10	6-47703-6
4- 856-2	4-30224-6	6-56798-8
4- 1923-3	4-30245-6	6-60794-1
4- 2741-0	4-30457-6	6-62239-12
4- 7419-6	4-31802-8	6-62535-10
4-13359-3	4-31954-8	6-73451-6
4-16966-6	4-32109-10	6-75947-6
4-17565-3	4-32708-8	6-78513-8
4-18475-10	4-32709-8	6-81318-12
4-19698-1	4-32810-8	6-93723-4
4-20324-4	4-34506-10	
4-20856-6	4-35229-10	7-33444-4
4-21346-6		
4-21450-6	6- 4900-0	15-950
4-21556-1	6-11132-8	15-1449
4-21629-6	6-11824-4	
4-22003-3	6-18716-3	32-293
4-22183-3	6-18807-4	
		77-3907
		77-7750

SCORES AND CAREER INFORMATION FOR INDIVIDUAL DOCTORS

Folder No.	Area	Yrs. Practice	Sat.	Yr. Tested	Age Tested	Hand Used	Dom. Eye	Eng. Voc.	Wiggly Block	Str. Vis.	Black Cube	Fing. Dext.	Obj. Obs.	Graph.	Ind. Reas.
SPECIALIZED CLINICIANS:															
1- 779-2	Urology	?	1	1943, 1948	14,19	R	L	70	92	89	65	95+	75	97	98
4-21346-6	Urology	4	1	1955	13	R	R	57	63	48	22	94	75	90	87
4-18475-10	Urology	Res.	1	1955	16	R	R	67	93	-	-	76	19	42	42
3- 926-3	Opthal-mology	4	1	1955	16	R	R	27	59	71	83	85	69	43	86
6-93723-4	Opthal-mology	20	1	1950	34	R	R	95+	19	13	14	25	-	48	19
4-21450-6	Otolaryn-gology	3	1	1955	16	R	L	60	74	-	-	65	94	43	99
4-32810-8	Otolaryn-gology	Res.	1	1961	18	R	R	45	83	90	87	72	69	84	97
4-20856-6	Derma-tology	2	1	1952	13	R	L	45	18	19	35	70	69	37	7
4-26063-8	Derma-tology	Res.	1	1959	14	R	R	61	71	79	80	90	64	44	68
4-21629-6	Ob.-Gyn.	Res.	1,2	1956, 1959	13,16	R	L	43	86	95	95	34	69	68	76
4-25739-6	Ob.-Gyn.	Res.	1	1959	12	R	L	20	26	-	-	95	90	96	96
4-17565-3	Neurology	11	2	1951	16	R	R	91	52	62	72	87	-	65	100
6- 4900-0	Pathology	28	1	1944	45	B	L	74*	83*	69*	33	60	C	60*	61
1- 6751-1	Internal Medicine	7	1	1948, 1950	12,15	R	R	70	78	78	B	55	-	88	70
F 4- 856-2	Internal Medicine	19	1	1942	20	-	-	62*	88*	98*	99	A	85	30*	1

* Raw score not rescored on more recent norms. F = Female. Res. = Resident.
 Sat: 1 = "Very rewarding;" 2 = "Essentially satisfying;" 3 = "Neither enthusiastic nor dissatisfied;"
 4 = "Dissatisfied."

Folder No.	Rhythm Memory	Pers. Certile	No. Mem.	Silo.	Idea.	Tonal Mem.	Pitch	Analyt. Reas.	Fore- Sight	Grip	Mem. Des.	Prop. App.	Tweezer	
1- 779-2	-	AE:24 = 83 Obj.	-	-	69	A	C	-	90	C	A	35	7	(Urology)
4-21346-6	-	AI:30 = 96 Obj.	90	90	85	B	B+	-	100	C+	28	60	100	(Urology)
4-18475-10	-	AI: 0 = 78 Subj.	-	29	27	97	97	-	50	-	92	-	-	(Urology- Res.)
3- 926-3	-	AH: 6 = 54 Subj.	89	16	58	20	10	-	85	-	B-	75	100	(Ophthal- mology)
6-93723-4	63	AH: 24 = 83 Obj.	-	-	99	A	90	-	92	C	C	65	72	(Ophthal- mology)
4-21450-6	-	AI: 8 = 53 Subj.	-	73	20	69	B	-	77	-	94	-	100	(Otolaryn- gology)
4-32810-8	100	AI: 7 = 55 Subj.	57	77	44	85	C	100	100	B	68	-	-	(Otolaryn- gology - Res.)
4-20856-6	-	AH:24 = 83 Obj.	95	B-	65	C	4	-	64	-	A	95+	100	(Dermatology)
4-26063-8	48	AI: 5 = 61 Subj.	-	77	73	16	D	60	93	A	48	-	-	(Dermatology - Res.)
4-21629-6	-	AI:12 = 55 Obj.	92	26	42	D+	B	-	100	-	92	35	B+	(Ob.-Gyn. - Res.)
4-25739-6	-	AI:19 = 69 Obj.	-	84	57	B	C	-	90	-	B	-	-	(Ob.-Gyn. - Res.)
4-17565-3	-	AH:22 = 77 Obj.	-	-	91	A	90	-	90	C	B	50	-	(Neurology)
6- 4900-0	-	-	B-	-	99*	-	-	60*	-	-	-	-	89	(Pathology)
1- 6751-1	-	AE:32 = 95 Obj.	45	-	74	D	38	-	-	A	54	80	-	(Internal Medicine)
F 4- 856-2	-	AE: 3 = 74 Subj.	71	-	11	40	-	-	-	-	-	-	B	(Internal Medicine)
Folder No.	Rhythm Memory	Pers. Certile	No. Mem.	Silo.	Idea.	Tonal Mem.	Pitch	Analyt. Reas.	Fore- sight	Grip	Mem. Des.	Prop. App.	Tweezer	

* Raw score not rescored on more recent norms.

F = Female. Res. = Resident.

Folder No.	Area	Yrs. Practice	Sat.	Yr. Tested	Age Tested	Hand Used	Dom. Eye	Eng. Voc.	Wiggly Block	Str. Vis.	Black Cube	Fing. Dext.	Obj. Obs.	Graph.	Ind. Reas.
SPECIALIZED CLINICIANS (continued)															
4-20324-2	Internal Medicine	10	1	1954	15	B	L	72	99	-	-	30	-	96	91
6-20762-3	Internal Medicine	22	1	1946	22	R	R	89	69	81	87	82	-	43	63
SURGEONS															
4-21556-6		8	1	1955	16	R	R	91	81	91	95	84	99	100	100
4-22183-3		5	1	1959	17	R	R	37	71	82	88	60	94	42	74
4-25495-6	Surgical Research	2	1	1958	14	R	R	72	79	84	77	78	93	89	100
4-22629-0		10	1	1951	18	R	R	95+	48	-	-	55	-	59	29
6-19874-6		14	1	1946	20	R	R	54	72	81	82	88	-	94	63
6-20816-3	Also Assoc. Professor	14	1	1947	19	L	R	95+	96	93	70	65	A	78	70
6-42756-3		24	1	1970	48	R	R	36	90	80	43	75	83	80	22
6-43533-8	Plastic Surgery	23	1	1963	44	R	R	49	55	44	27	65	78	45	78
7-33444-4	Urologic; Instructor	16	1	1953	21	R	R	42	99	99	87	50	D	15	64
4-22003-3	Ortho- pedics	Res.	1	1958	16	L	L	68	38	56	87	67	81	15	48
4-31802-8		Res.	2	1955	15	R	R	63	48	-	-	50	-	51	32
4-32708-8	2 yrs. research	Res.	1	1958	17	R	R	56	68	64	50	87	99	28	68
6-41033-8	Urologic Surgery	Res.	1	1961	14	R	R	26	43	44	52	88	64	88	96

Res. = Resident. Sat.: 1="Very rewarding;" 2="Essentially satisfying;" 3="Neither enthusiastic nor dissatisfied;" 4="Dissatisfied."

Folder No.	Rhythm Memory	Pers. Certile	No. Mem.	Silo.	Idea.	Tonal Mem.	Pitch	Analyt. Reas.	Fore- sight	Grip	Mem. Des.	Prop. App.	Tweezer	
4-20324-4	-	AI:30 = 96 Obj.	-	94	26	70	95+	-	38	-	A	-	-	(Internal Medicine)
6-20762-3	80	AE:15 = 60 Obj.	-	A	23	78	90	60	91	-	A	95	47	(Internal Medicine)
4-21556-6	-	AI:28 = 92 Obj.	100	99	46	70	A	-	66	C	56	65	80	(Surgeon)
4-22183-3	-	AI:19 = 69 Obj.	84	56	16	46	D	-	30	C	99	95+	D	(Surgeon)
4-25495-6	48	AI: 8 = 53 Subj.	77	88	81	C	C	-	55	B	99	55	B	(Surgical Research)
4-22629-0	-	AH:26 = 89 Obj.	-	C	31	A	60	-	11	-	C	55	-	(Surgeon)
6-19874-6	75	AE:24 = 83 Obj.	95+	-	92	55	-	-	-	-	A	85	89	(Surgeon)
6-20816-3	65	AE:20 = 70 Obj.	-	-	13	67	D	-	85	-	A	45	-	(Surgeon/ Assoc. Prof.)
6-42756-3	90	AI:22 = 77 Obj.	72	-	67	83	B	30	-	B	40	-	-	(Surgeon)
6-43533-8	90	AI:15 = 60 Obj.	57	79	97	96	A	60	73	D	43	-	A	(Plastic Surgeon)
7-33444-4	-	AH:11 = 53 Obj.	46	A	11	88	70	-	75	B	A+	70	80	(Urologic Surgeon)
4-22003-3	-	AI:-6 = 98 Subj.	90	-	46	91	-	-	91	D	86	90	C	(Surgical Resident)
4-31802-8	-	AI: 4 = 65 Subj.	-	94	42	5	38	-	81	-	B	-	-	(Surgical Resident)
4-32708-8	-	AI:12 = 55 Obj.	-	81	38	65	82	-	98	C	93	50	D+	(Surgical Resident)
6-41033-8	95	AI:-4 = 94 Subj.	15	78	95	56	C	60	90	A	15	-	-	(Surgical Resident)

Folder No.	Area	Yrs. Practice	Sat.	Yr. Tested	Age Tested	Hand Used	Dom. Eye	Eng. Voc.	Wiggly Block	Str. Vis.	Black Cube	Fing. Dext.	Obj. Obs.	Graph.	Ind. Reas.
<u>SURGEONS (continued)</u>															
6-56798-B		Res.	1	1966	24	R	R	86	40	24	6	50	38	88	89
6-75947-6		Res.	?	1974	31	R	R	62	51	56	70	A	60	84	149
<u>GENERAL PRACTITIONERS</u>															
1- 307-0		20	1	1941-42	13	R	-	95	25	-	-	-	-	45	-
4- 1923-3		20	1	1943	19	L	R	81	77	83	82	93	D	35	31
4-13359-3		15	1	1948	20	R	R	41	70	82	A	95+	-	89	92
4-28002-10		7	2	1962	21	L	L	95	50	45	40	43	80	30	32
4-32109-10		?	1	1956	18	R	R	84	98	100	81	93	83	52	6
4-34506-10		10	1	1951	17	R	R	59	40	41	51	78	A+	50	82
4-35229-10		0	2	1958	17	R	L	20	85	65	18	63	48	35	82
6-18716-3		20	1	1946	21	R	R	75	75	85	87	95+	B	70	75
6-18807-4		21	1	1946	21	R	R	81	96	100	92	40	-	50	86
6-42479-1		29	1	1957	43	R	L	91	50	40	25	14	91	49	58
6-62239-12		4	1	1970	32	R	R	76	100	100	95	73	5	82	100
15-1449		18	1	1939	15	-	-	45*	36	-	D	-	-	93	B

26

Res. = Resident. * Raw score not rescored on more recent norms.

Satisfaction: 1="Very rewarding;" 2="Essentially satisfying;" 3="Neither enthusiastic nor dissatisfied;"
4="Dissatisfied".

Folder No.	Rhythm Memory	Pers. Certile	No. Mem.	Silo.	Idea.	Tonal Mem.	Pitch	Analyt. Reas.	Fore- sight	Grip	Mem. Des.	Prop. App.	Tweezer	
6-56798-B	20	AI:19 = 69 Obj.	20	94	93	48	D	-	93	A	26	-	47	(Surgical Resident)
6-75947-6	88	AL: 7 = 61 Subj.	30	80	96	C	A	30	98	-	80	-	10	(Surgical Resident)
1- 307-0	-	AE: 3 = 74 Subj.	-	-	25	B	-	-	-	-	-	-	A+	(General Practice)
4- 1923-3	-	AE: 2 = 80 Subj.	38	-	62	60	C	-	C	-	32	65	60	(General Practice)
4-13359-3	60	AH:12 = 55 Obj.	-	-	87	A	A	-	91	A	61	-	-	(General Practice)
4-28002-10	-	AI:10 = 52 Obj.	71	75	93	95	B	90	38	D	33	55	-	(General Practice)
4-32109-10	-	AI:30 = 96 Obj.	57	58	82	98	82	-	1	B-	69	85	A	(General Practice)
4-34506-10	-	AH: 6 = 54 Subj.	62	B	55	A-	60	90	62	B-	96	85	100	(General Practice)
4-35229-10	-	AI: 1 = 73 Subj.	24	61	14	97	92	-	64	B+	48	40	A+	(General Practice)
6-18716-3	85	AE:19 = 67 Obj.	88	-	54	87	-	80	92	-	88	-	89	(General Practice)
6-18807-4	55	AE: 4 = 68 Subj.	10	-	56	75	-	50	64	-	43	60	96	(General Practice)
6-42479-1	-	AI:14 = 58 Obj.	89	100	65	43	66	10	98	C	69	65	A	(General Practice)
6-62239-12	48	AI:23 = 80 Obj.	20	89	81	70	60	70	100	B	60	-	95	(General Practice)
15-1449	-	AE: 0 = 100 Subj.	-	-	D	-	-	-	-	-	-	-	A	(General Practice)

Folder No.	Area	Years Practice	Sat.	Year Tested	Age Tested	Hand Used	Dom. Eye	Eng. Voc.	Wiggly Block	Str. Vis.	Black Cube	Fing. Dext.	Obj. Obs.	Graph.	Ind. Reas.
PSYCHIATRISTS															
4-16966-6	Director of clinic	1	1	1950	15	L	R	60	21	15	19	48	-	74	7
4-19698-1		2	2	1951	15	R	R	68	35	47	73	75	-	36	28
4-23531-6	Director, hosp. ment. hlth. svcs.	4	1	1957	19	R	L	57	81	89	87	96	45	80	92
4-23553-6	Child psychiatry	5	1	1957	20	R	R	94	80	90	92	43	58	24	90
4-32709-8	Hosp. staff psychiatrist	4	2	1958	17	R	-	17	84	80	55	97	64	86	21
F 32-293		10	2	1940	15	R	R	78	90*	78*	C	93	92	51	86
77-7750	Head, Univ. health svc.	13	1	1937	18	R	R	-	100	100	100	-	A	96	99
4-25740-6		Res.	2	1959	12	R	L	51	42	-	-	95	81	99	71
4-30224-6		Res,	2	1962	18	R	R	93	47	60	78	93	35	80	56
6-47703-6		Res.	1	1964	17	R	R	42	75	73	59	94	51	65	99

ANESTHESIOLOGISTS

1- 1029-6		15	2	1943	14	R	R	40	46	47	51	78	-	30	B
F 4- 199-3		19	1	1942	18	R	R	95+	86*	-	-	60	A	C*	45
4- 7419-6	Also Univ. Dept. head	10	1	1946	15	R	R	42	99	89	51	95	C	58	71
4-31954-8		14	1	1956	17	R	L	95	78	87	88	25	88	43	61

* Raw score not rescored on more recent norms. F = Female Res. = Resident

Folder No.	Rhythm Memory	Pers. Certile	No. Mem.	Silo.	Idea.	Tonal Mem.	Pitch	Analyt. Reas.	Fore- sight	Grip	Mem. Des.	Prop. App.	Tweezer	
4-16966-6	83	AH:18 = 66 Obj.	-	-	45	A	A	-	25	-	34	95+	-	(Psych- iatrist)
4-19698-1	83	AE: 0 = 100 Subj.	-	B	15	A	50	-	80	B	B+	60	-	(Psych- iatrist)
4-23531-6	-	AI:13 = 57 Obj.	67	90	96	70	A	-	100	-	75	5-	D	(Psych- iatrist)
4-23553-6	100	AH:21 = 73 Obj.	98	97	-	97	C	-	97	-	99	25	-	(Child psych.)
4-32709-8	-	AI: 1 = 73 Subj.	-	3	81	31	62	-	85	-	41	55	C	(Psych- iatrist)
F 32-293	-	AE:22 = 77 Obj.	86	-	A	B+	-	B+	-	-	A	-	70	(Psych- iatrist)
77-7750	A	-	A+	-	A	B	-	-	-	-	-	-	-	(Psych- iatrist)
4-25740-6	-	AI: 1 = 73 Subj.	-	80	83	C	D	-	50	-	B	-	D	(Psych. Res.)
4-30224-6	100	AI:12 = 55 Obj.	93	55	98	75	A	90	100	7+	63	50	A+	(Psych. Res.)
6-47703-6	-	AI:11 = 53 Obj.	-	30	70	70	D	-	57	A	71	-	100	(Psych. Res.)
1- 1029-6	65	AE:24 = 83 Obj.	78	-	55	-	-	-	21	A	A	85	100	(Anesthes- iology)
F 4- 199-3	-	AE:24 = 83 Obj.	98	-	87	B+	-	-	-	-	-	60	100	(Anesthes- iology)
4- 7419-6	20	AH: 3 = 74 Subj.	31	-	59	78	-	-	81	A	A	40	100	(Anesth.- Dept. Head)
4-31954-8	-	AI:23 = 80 Obj.	-	87	28	11	45	-	16	B	81	5	C+	(Anesthes- iology)

F = Female

Res. = Resident

Folder No.	Area	Years Practice	Sat.	Year Tested	Age Tested	Hand Used	Dom. Eye	Eng. Voc.	Wiggly Block	Str. Vis.	Black Cube	Fing. Dext.	Obj. Obs.	Graph.	Ind. Reas.
<u>PEDIATRICIANS</u>															
4-22413-4		4	1	1958	16	R	L	54	47	38	25	90	23	89	15
6-11132-8		15	1	1945	20	-	R	52	72*	85*	A	70	99	25*	66
6-47521-6		Res.	2	1964	18	R	R	63	94	97	87	88	48	65	74
6-78513-8		Res.	2	1965	23	R	L	75	31	18	5	84	67	69	31

RESEARCH

4- 2741-0	Pathology	22	1	1944	17	B	R	95+	11	16	42	25	D	10	29
4-30245-6	Nat. Inst. Ment. Health	2	2	1961	18	R	R	91	58	63	65	95	23	90	56
6-62535-10	Biochem. of Ment. Dis.	8	1	1971	47	R	R	22	92	87	61	10	99	57	3
15 950	Radiation, Biochem.	12	1	1938	13	R	R	95+	13	-	-	-	A	B	B
4- 856-2	Study of arthritis	19	1	See "Specialized Clinicians - Internal Medicine"											
4-25495-6	Surgical Research	2	1	See "Surgeons"											

TEACHING - Medical School Professors, Assistant Profs., and Associate Profs.

6-81318-12	Assoc. Prof., Physiology	13	2	1970	49	R	R	77	52	51	51	70	64	30	40
1- 779-2	Dept. Chmn., Urology	?	1	See "Specialized Clinicians - Urology"											
1- 6751-1	Asst. Prof., Int. Med.	7	1	See "Specialized Clinicians - Internal Medicine"											
3- 926-3	Prof., Opthalmology	4	1	See "Specialized Clinicians - Ophthalmology"											

* Raw score not rescored on more recent norms.

Folder No.	Rhythm Memory	Pers. Certile	No. Mem.	Silo.	Idea.	Tonal Mem.	Pitch	Analyt. Reas.	Fore- sight	Grip	Mem. Des.	Prop. App.	Tweezer	
4-22413-4	-	AI:20 = 72 Obj.	-	35	61	C	10	-	35	B	12	70	A	(Pediatrics)
6-11132-8	A	AH:10 = 52 Obj.	40	-	75	90	-	C	B	-	56	40	51	(Pediatrics)
6-47521-6	90	AI:15 = 60 Obj.	67	85	40	96	B+	-	50	A	98	-	A	(Ped.-Res.)
6-78513-8	99	AI:14 = 58 Obj.	-	36	94	88	B	50	55	B	19	-	99	(Ped.-Res.)
4- 2741-0	-	AE:19 = 67 Obj.	96	-	26	70	B	90	24	-	-	-	47	(Research- Pathology)
4-30245-6	75	AI: 8 = 53 Subj.	98	74	96	29	D	90	83	A	81	65	D	(Research- Ment. Health)
6-62535-10	15	AI:25 = 86 Obj.	78	63	38	56	B	20	70	A	95+	55	10	(Research- Biochem.)
15-950	-	AE: 2 = 80 Subj.	-	-	B	D	-	-	-	-	A	-	-	(Research- Radiation)
4- 856-2	See "Specialized Clinicians - Internal Medicine"													
4-25495-6	See "Surgeons"													
6-81318-12	63	AI:27 = 91 Obj.	-	87	94	75	90	95+	75	A	95+	-	80	(Assoc. Prof.)
1- 779-2	See "Specialized Clinicians - Urology"													
1- 6751-1	See "Specialized Clinicians - Internal Medicine"													
3- 926-3	See "Specialized Clinicians - Ophthalmology"													

Folder No.	Area	Years Practice	Sat.	Year Tested	Age Tested	Hand Used	Dom. Eye	Eng. Voc.	Wiggly Block	Str. Vis.	Black. Cube	Fing. Dext.	Obj. Obs.	Graph.	Ind. Reas.
TEACHING (continued)															
4- 856-2	Asst. Prof., Int. Med.	19	1	See "Specialized Clinicians - Internal Medicine"											
4- 7419-6	Dept. Chmn., Anesthes.	1	1	See "Anesthesiologists"											
6-20762-3	Asst. Prof., Int. Med.	22	1	See "Specialized Clinicians - Internal Medicine"											
OTHER															
4-30457-6		Res.	1	1962	17	R	R	77	89	89	70	95	41	95	52
6-11824-4	Dir. Med. Svcs.	4	1	1945	20	R	R	68	34	31	40	83	95	35	66
F 77-3907	Public Health	20	1	1934	30	-	-	-	C+*	-	B	-	-	89*	A
DISSATISFIED PHYSICIANS															
1- 6837-1	Anesthes- iology	4		1950, 1973	12, 35	R	L	20	91	-	-	45	-	26	61
6-60794-1	Anesthes- iology	?		1972	44	R	R	46	90	87	95	15	80	60	80
6-73451-6	General Practice	15		1974	41	R	R	20	97	-	-	A	27	66	35

* Raw score not rescored using more recent norms.

Folder No.	Rhythm Memory	Pers. Certile	No. Mem.	Silo.	Idea.	Tonal Mem.	Pitch	Analyt. Reas.	Fore- sight	Grip	Mem. Des.	Prop. App.	Tweezer	
4- 856-2	See	"Specialized Clinicians - Internal Medicine"												
4- 7419-6	See	"Anesthesiologists"												
6-20762-3	See	"Specialized Clinicians - Internal Medicine"												
4-30457-6	90	AI: 8 = 53 Subj.	89	63	83	56	C	90	90	B	79	-	A	(Resident)
6-11824-4	A	AE: 32 = 95 Obj.	95	-	64	90	-	30	A	-	90	60	50	(Dir., Med. Services)
F 77-3907	A	-	-	-	A+	98	C	-	-	-	-	-	A	(Public Health)
1- 6837-1	66	AE: 15 = 60 Obj.	51	58	12	C	-	50	-	-	70	-	90	(Anesthes- iology)
6-60794-1	75	AI: 22 = 77 Obj.	26	80	76	A	C	90	72	D	80	-	80	(Anesthes- iology)
6-73451-6	6	AL: 1 = 95 Subj.	60	40	62	B	B	40	53	-	50	-	95+	(General Practice)

